Todd Iverson

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Experience

Assistant Professor – Winona State University. Winona, MN. August 2016 – Present

- Developed new two data science course for managing unstructured data and data at scale in Python.
- Co-chaired the university-wide Course and Program Proposal Subcommittee.
- Retooled the DSCI 210 course design to a technology-agnostic, project-based approach.
- Implemented a course on functional and distributed programming in Python, including an open source, online, interactive textbook.
- Adapted the STAT 110 course notes, producing an open source, online, interactive textbook.
- Applied the flipped classroom pedagogy to STAT 110.
- Developed and successfully implemented the first online summer section of STAT 110.
- Taught a wide variety of statistics and data science courses
- Supervised many students on their senior capstone projects/internships.
- Served on a number of departmental committees and one Faculty Association committee.

Chair, Department of Mathematics, Computer Science, and Statistics; 2014 – 2016
Associate Professor (Tenured May 2013) - Saint Mary's University of MN. Winona, MN. 2013 – 2016

- Chaired the Educational Standards committee - 2013-2014.
- Appointed to the Budget Advisory committee by the President of SMU.
- Implemented a blended learning environment in two courses.
- Supervised 14 senior projects in 2013-2016, with one presented at MathFest.
- Took over advising for most computer science majors, Fall 2014-2016.

AP Statistics Reader – Educational Testing Service June 2014-16, 20

- Evaluated and scored the free-response section of the AP statistics exam.

Instructor – Countdown 2 College July 2012 – July 2015

- Taught statistics to underrepresented high school students (rising juniors and seniors).
- Developed a two-year college prep. statistics curriculum based on randomization.

Assistant Professor - Saint Mary's University of Minnesota. Winona, MN. 2008 – 2013

- Served as Quantitative Assessment Coordinator, collected and analyzed assessment data.
- Supervised 19 students on their senior capstone project.
- Co-developed a major in Actuarial Science.
- Served on Classroom and Faculty Scholarship committees, serving as chair of the later.

Teaching Assistant - CSU Statistics Department. Fort Collins, CO 2006 - 2008

- Taught various statistics courses as the primary instructor. 2003 - 2004

Research Assistant - CSU Statistics Department. Fort Collins, CO. 2005 - 2006

- Tested the validity of Kernel Methods for classification using insurance claims data.
- Took a major role in all phases of the project including data preparation, kernel implementation, tuning and validating results, and writing the final report.

Instructor - Saint Mary's University of Minnesota. Winona, MN. 1999 - 2003

- Taught a large variety of mathematics and statistics courses.
- Supervised students on their senior capstone project.
- Developed student excitement and participation in upper level statistics courses.
- Participated in the development of a department wide Introduction to statistics assessment tool.

Courses Taught

Teaching assignments at WSU include Fundamentals of Statistics (STAT 110—14 times), Statistics (STAT 210—Sp18), Intro. to Engineering Statistics (STAT 303—F16, F17, F20), Intermediate Statistics (STAT 310—Sp17, F18, F20), Industrial Design of Experiments (STAT 321—Sp19, Sp20), Experimental Design and Analysis (STAT 365—Sp17), Special Topics (STAT489—Sp17), Data Science (DSCI 210—F17, Sp18, F18, F20), Management of Unstructured Data (DSCI 330—F18, F20), Data Science at Scale (DSCI 430—Sp19, Sp21)

Teaching assignments at SMU included Elementary Math Ideas, Intermediate Algebra, College Algebra, Finite Mathematics, Trigonometry, Reasoning with Statistics, Introduction to Statistics, Calculus I, Calculus II, Calculus III, Linear Regression, Numerical Analysis, Mathematical Statistics, Probability, Regression Analysis, Design of Experiments, Computer Science Fundamentals, Introduction to Programming for Sciences, Introduction to Scientific Computing, Programming Languages, Theory of Computation, and Senior Seminar.

Teaching assignments at CSU included General Statistics, Intro to Biostatistics, Statistics for Engineers and Scientists, and Design of Experiments.

Education

Ph.D., Statistics, GPA: 3.93, 2008
Colorado State University, Fort Collins, CO.
Research focused on Kernel Methods for classification. Specifically, kernels were developed and adapted to accept data that had discrete states in continuous time. Methods adapted included bag of codes kernel, stratified bag of codes kernel, Hidden Markov Model classifier, Fisher kernel, Local Alignment kernel, and a novel Time Warping kernel. In particular, the Time Warping kernel builds on current time warping kernels by allowing variable lengths of time between observations while maintaining positive definiteness.

M.S., Statistics, 2004
Colorado State University, Fort Collins, CO

B.S., Mathematics, 1993
Mankato State University, Mankato, MN
Minor in Statistic

Peer – Reviewed Publications

Iverson, Todd, *Generalized fiducial inference*, WIREs Comput Stat 2014. doi: 10.1002/wnan.21

Peer – Reviewed Conference Publications

Iverson, Todd; Ben-Hur, Asa; Iyer, Hari; *Predicting Type II Diabetes using Insurance Claims Data*. In Proceedings of Predictive Models in Personalized Medicine, NIPS Workshop 2010. (available online at http://bit.ly/aT8WdG)

Conference Planning

United States Conference on Teaching Statistic, 2021. Planning Committee and Co-organizer of Pre-conference Workshops.

Invited Sessions

"Data Visualization in Python." Organizer and Chair. SDSS 2019, Belleview, WA

Workshops

"A Core Curriculum for Undergraduate Data Science." Iverson et al., USCOTS 2019.

"Data Visualization Theory and Pedagogy." presented with Silas Bergen at The 2019 Symposium on Data Science & Statistics (SDSS 2019).

"Data Visualization Theory and Pedagogy." presented with Silas Bergen at ICOTS 2018.

"Web Scraping and Data Visualization with Python and Tableau." Workshop presented with Silas Bergen at USCOTS 2017.

Other Conference Presentations

"Data Management with Data Verbs", Iverson, Todd; Malone, Chris; The 2020 Symposium on Data Science & Statistics (SDSS 2020) (peer-reviewed)

"Teaching Data Science Students to Write Clean Code", Iverson, Todd; The 2019 Symposium on Data Science & Statistics (SDSS 2019) (non-peer-reviewed)

"Data Management with Data Verbs", Malone, Chris; Iverson, Todd; Presented as a poster as The 2019 Symposium on Data Science & Statistics (SDSS 2019) (non-peer-reviewed)

"Providing Scaffolding for the P-value Throughout a Traditional Introductory Statistics Course" Iverson, Todd; USCOTS 2013, Raleigh-Durham, NC (peer-reviewed).

"Energized Integer Partitions," Iverson, Todd; MathFest 2012, Madison WI (non-peer-reviewed).

"Generalized Fiducial Inference for a Class of Discrete Regression Problems," Iverson, Todd; Presented as a poster as JSM 2011 (non-peer-reviewed).

"Predicting Type II Diabetes using Insurance Claims Data." Iverson, Todd; Predictive Models in Personalized Medicine, NIPS Workshop, December 2010 (peer-reviewed).

Other Presentations

"An Introduction to Generalized Fiducial Inference," Iverson, Todd; Presented at Winona State University for Mathematics and Statistics Seminar Series, March 4 2014

Professional Service

- Webmaster, MAA Special Interest Group on Statistics Education, 2009 – 2016
- Panel Reviewer, NSF Transforming Undergraduate Education in STEM, July 2011
- Article Reviewer, Journal of Statistics Education, October 2011
- Article Reviewer, Journal of Statistics Education, April 2012
- Article Reviewer, Journal of Statistical Computation and Simulation, August 2014
- Article Reviewer, Journal of Statistical Computation and Simulation, March 2015
- Article Reviewer, Journal of Statistics Education, November 2019
- Article Reviewer, Journal of Statistics Education, February 2021